Building Shared Perspectives by Piecing Together Measurements

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Overview

• Measuring networks is important, challenging, and necessary.
• But, possibly not sufficient.
• In the interests of the Internet’s evolution, we should consider kicking it up a level:

**COLL[ABOR]ATE**
EXISTING EXAMPLE – TRACKING IPv6 NETWORK GROWTH
Broad spectrum insights

- From http://www.worldipv6launch.org/telekom-malaysia-joins-top-10-ipv6-networks/
  - “– Telekom Malaysia (AS4788) are now in the Top 10 networks by our methodology with an IPv6 deployment percentage of 15.36%.
  - – New entrants this month include Canadian telecommunications firm TELUS (AS852) with 2.85%, US cable provider Mediacom Communications (AS30036) with 6.40% IPv6 deployment, and major US telco Centurylink (AS209) with 0.11% IPv6 deployment.”
Particular observations

• (Same source)
“How do they do that?”

• No single source could provide that perspective

• Collaboration of major content providers and willingness of networks to be measured/show their stats.

• Collation of data to manage privacy and sensitive data.
Q: HOW TO MEASURE THE INTERNET’S STABILITY AND HEALTH
A: One network at a time...

• Operational: network operators need to measure themselves for their own purposes
  – E.g., see “Software Architecture and Guidelines for Creating an LMAP Reference Implementation”, draft-jjmb-lmap-reference-implementation-guide-00

• Simple building blocks
  – E.g., tracking round trip times for sites over IPv4 and IPv6, from all edge customers
  – Ratio can be used as a metric of v6 viability and improvement over time
Intended Outcome

• A target for new operators (e.g., in developing economies) to shoot for, in terms of performance and “what good looks like”

• Promoting more networks to be objectively introspective
This I believe...

The Internet was created for connecting and sharing — initially, connecting research networks and sharing (computing) resources. Ever since it “escaped” the research lab, it has provided a basis for individuals of all age and background to connect and share in ways previously unimagined. The things we’ve seen in the last twenty years would surely have been deemed impossible, except that they have been achieved. As long as the Internet remains open and non-discriminating to all-comers, the people (individuals, communities and organizations) of this planet will continue to amaze each other with the creative uses to which they put the Internet.

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